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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL E. CAINE, STEVEN M. HERBST,
JOSHUA D. RUBIN, RICHARD A. THRUSH, and
JASON P. WOJACK

Appeal 2009-002237
Application 10/769,258
Technology Center 2600

Decided:¹ July 14, 2009

Before KENNETH W. HAIRSTON, ROBERT E. NAPPI, and BRADLEY
W. BAUMEISTER, *Administrative Patent Judges*.

BAUMEISTER, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 (2002) from the Examiner's final rejection of claims 1-22. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We affirm.

A. *Appellants' invention*

A keypad and method for detecting the selection of one of a plurality of key inputs associated with a single key is provided. The keypad includes one or more keys having a primary input selection and three or more secondary input selections. Each secondary input selection has a corresponding switch, where if only one of the switches is engaged when the key is actuated, the corresponding secondary input selection is indicated. If any combination of a plurality of switches [is] engaged, when the key is actuated, the primary input selection is indicated.

Abstract.

B. *The claims*

Independent claim 1 is reproduced as illustrative, with recitations principally in controversy emphasized:²

1. A keypad comprising:

one or more keys, each key *including a contact surface and* being associated with a primary input selection and three or more secondary input selections, wherein each secondary input selection is associated with a corresponding one of a plurality of switches; and

² The emphasized claim language ("the amended claim language") was added by amendment after the Examiner issued a non-final rejection. *See* Response to Office Action, filed Oct. 12, 2006.

a selection indicator coupled to the plurality of switches and adapted for detecting one of a primary input selection and a secondary input selection, when the key is actuated, wherein one of the secondary input selections is indicated when only a corresponding one of the plurality of switches is engaged, when the key is actuated, and a primary input selection is indicated when any combination of more than one of the plurality of switches are engaged, when the key is actuated

wherein the corresponding one of the plurality of switches associated with each of the secondary input selections is in a direct vertical alignment with the portion of the contact surface associated with the particular secondary input selection, where the plurality of switches are positioned and arranged horizontally relative to one another.

C. The references and rejections

The Examiner relies on the following prior art references to show unpatentability:

Yu	US 5,852,414	Dec. 22, 1998
Kato	US 6,356,258	Mar. 12, 2002
Swanson	US 6,541,715 B2	Apr. 1, 2003

1. Claims 1-22 stand rejected under 35 U.S.C. § 112, 1st paragraph for failing to comply with the written description requirement.
2. Claims 1-17 stand rejected under 35 U.S.C. § 112, 2nd paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claims 1-3, 5-8, and 11-20 stand rejected under 35 U.S.C. § 102(b) as anticipated by Swanson.
4. Claims 4, 9, 10, 21, and 22 stand rejected under 35 U.S.C. § 103(a) as obvious over Swanson in view of Kato.

5. Claims 12-14 stand rejected under 35 U.S.C. § 103(a) as obvious over Swanson in view of Yu.

Rather than repeat the arguments of the Appellants or the Examiner, we refer to the Brief and the Answer for their respective details.³ In this decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ARGUMENTS AND ISSUES

I. The Examiner rejected claims 1-22 under 35 U.S.C. § 112, 1st paragraph because the originally filed disclosure does not provide support for the portions of the amended claim language relating to (1) the switches being “positioned and arranged horizontally relative to one another;” and (2) the respective switches and portions of the contact surface being in “direct vertical alignment.” Ans. 4, 5, and 17-20. Appellants assert that the written description requirement does not require the Specification to provide literal support for, or to employ identical language as, the later added claim language. Br. 6. Appellants further assert that figure 2 and portions of the related description of the originally filed disclosure reasonably convey to the artisan that the inventor had possession at the time of the later claimed subject matter. Br. 6.

³ We refer to (1) the Appeal Brief filed Aug. 15, 2007; and (2) the Examiner’s Answer mailed Nov. 1, 2007 throughout this opinion.

The first issue before us then is: Have Appellants shown the Examiner erred in finding that Appellants' originally filed disclosure lacks support for the amended claim language relating to (1) the switches being "positioned and arranged horizontally relative to one another;" and (2) the respective switches and portions of the contact surface being in "direct vertical alignment"?

II. The Examiner rejected claims 1-17 as indefinite under 35 U.S.C. § 112, 2nd paragraph because: (1) claim 1 lacks sufficient antecedent basis for the term, "the portion" (Ans. 5); (2) the last limitation of claim 1 raises a question of "whether each switch is in direct vertical alignment with the same shared portion of the key contact surface, or rather whether each switch is in direct vertical alignment with a unique and distinct portion of the overall key contact surface" (Ans. 23); (3) the last limitation of claim 1 raises a question of "whether there is a single shared 'particular secondary input selection' associated with a plurality of distinct contact surface portions; or whether there are a plurality of distinct 'particular secondary input selections' associated with a single common key contact surface" (Ans. 23, 24); and (4) the language of claim 1 is "broadly indefinite enough that it could reasonably well read upon a keypad which distinguishes between primary and secondary inputs based upon [different factors]" (Ans. 22, 23). Appellants argue that one skilled in the art would understand the metes and bounds of the claims as worded, with or without further amendment to correct the antecedent basis of the term, "portion."

The second issue before us then is: Have Appellants shown the Examiner erred in finding claim 1 to be so unclear that those skilled in the

art would not understand what is claimed when the claim is read in light of the Specification?

III. The Examiner held that Swanson discloses every element of claims 1-3, 5-8, and 11-20, specifically including the claim limitation relating to the plurality of switches being in direct vertical alignment with the respective portions of the contact surface. Ans. 6-11, 24-29. Appellants assert that Swanson fails to make known or obvious a claimed feature where the corresponding one of the plurality of switches associated with each of the secondary input selections is in direct vertical alignment with the portion of the contact surface associated with the particular secondary input selection. Br. 9.

The third issue before us then is: Have Appellants shown the Examiner erred in finding that Swanson discloses that the switches and the portions of the key member's contact surface, respectively associated with the same secondary input selection, are in a direct vertical alignment?

FINDINGS OF FACT

The record supports the following Findings of Fact (FF) by a preponderance of the evidence:

1. Appellants' Specification states, "FIG. 2 is an exemplary circuit schematic and corresponding layout 120 of a key 102 . . . for use in conjunction with the keypad 100, illustrated in FIG. 1." Spec. 5.
2. Figure 2 of Appellants' originally filed disclosure (1) schematically depicts a circuit including three electrical switches 122 and associated wiring connecting these switches to an undepicted selection indicator circuit;

and (2) depicts the corresponding layout of a key 102 superimposed over the circuit.

3. The key 102 depicted in Fig. 2 of Appellants' originally filed disclosure includes three popples 124, each popple being superimposed over a respective one of the three switches 122.

4. Swanson discloses a key member 10 that has a convex faceted upper surface that includes lateral faces or facets 11-14 and a top facet 15.

Swanson, e.g., col. 2, ll. 62-66; Fig. 4.

5. Swanson's key member 10 includes a peripheral flange 17 extending transversely from the bottom side. Swanson, e.g., col. 3, ll. 23-27; Fig. 4.

6. Upstanding switch actuators 30 are respectively interposed between microswitches 21-24 and corresponding portions of the peripheral flange 17 that are positioned over the microswitches 21-24. Swanson, e.g., col. 3, ll. 17-19; Fig. 4.

7. Swanson states:

In the illustrated embodiment, each key member 10 is associated with four microswitches with respective actuators which are mounted on a base plate 42⁴ below the key member. The lateral faces or facets 11, 12, 13, 14 of each key member 10 are oriented at [45 degrees] to the grid pattern defined by the switch actuators. Thus, by pressing lateral facet 11, the microswitch 22, which is located opposite from the lateral facet 11, is actuated. By pressing lateral face or facet 12, generally normal to its face, the key member is rocked so as to actuate the microswitch 23. By pressing the facet 13, the key member 10 is rocked to actuate the microswitch 24. Finally, by pressing

⁴ Figure 4 of Swanson alternatively employs label 42 to indicate an opening in upper, keyboard plate 41, leaving the lower base plate unlabeled.

lateral face 14, in a direction normal thereto, the key member is tilted in order to actuate microswitch 21.

Swanson, col. 3, ll. 38-51.

PRINCIPLES OF LAW

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006).

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. The content of the drawings may also be considered in determining compliance with the written description requirement.

In re Kaslow, 707 F.2d 1366, 1375 (Fed. Cir. 1983) (citations omitted).

“[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.” *See In re Preda*, 401 F.2d 825, 826 (CCPA 1968).

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior

art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

ANALYSIS

I.

We find Appellants’ arguments regarding the § 112, 1st paragraph rejection of claims 1-22 to be persuasive. The fact that Appellants do not have literal support in the Specification for the amended claim language does not mean that the amended claims automatically run afoul of the written description requirement of 35 U.S.C. § 112, 1st paragraph. *See Kaslow*, 707 F.2d at 1375. Rather, “[t]he test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter.” *Id.* Moreover, “[t]he content of the drawings may also be considered in determining compliance with the written description requirement.” *Id.*

Figure 2 of Appellants’ originally filed disclosure “is an exemplary circuit schematic *and corresponding layout* 120 of a key 102 . . . for use in conjunction with the keypad 100, illustrated in FIG. 1.” FF 1. (emphasis added). More specifically, figure 2 schematically depicts a circuit including three electrical switches 122 and associated wiring connecting these switches to an undepicted selection indicator circuit. FF 2. Figure 2 also depicts the corresponding layout of a key 102 superimposed over the circuit. FF 2. The key includes three popples 124, each popple being superimposed over a respective one of the three switches 122. FF 3.

Because figure 2 is a hybrid schematic/layout drawing, the Examiner erred in concluding that figure 2 is “merely a symbolic illustration” that fails to depict any of the components’ physical locations in the finished device. *See* Ans. 20. Rather, figure 2 does depict each one of the plurality of switches in a direct vertical alignment with corresponding portions of a contact surface that are associated with the respectively same secondary input selections.

Similarly, while Appellants’ written Specification does not expressly state that the plurality of switches are positioned and arranged horizontally relative to one another, one of ordinary skill would nonetheless understand such a configuration to be reasonably implied. *See Preda*, 401 F.2d at 826 (noting that “in considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom”). The skilled artisan would understand that the switches—however they may specifically be physically configured—are typically mounted on flat printed circuit boards or “base plate[s].” *See* FF 7. Moreover, nothing in the originally filed disclosure indicates that any of the keys’ popples 124 are of different sizes or that any of the microswitches 122 are of different physical configurations.

For the foregoing reasons, Appellants have persuaded us of error in the Examiner’s written description rejection of independent claims 1, 18 and 19. Accordingly, we will not sustain the Examiner’s rejection of those claims or dependent claims 2-17 and 20-22 which stand with claims 1, 18 and 19.

II.

We now turn to the indefiniteness rejection of claims 1-17 under 35 U.S.C. § 112, paragraph 2. The Examiner's first basis for the indefiniteness rejection is that the language of claim 1, "the portion," lacks sufficient antecedent basis. Ans. 5. The Examiner's second two bases relate to ambiguities in the claimed relationships among the plural microswitches, the plural portions of the key contact surface, and the plural secondary input selections. Ans. 23, 24.

We agree with the Examiner that claim 1 is not a model of clarity. However, the legal test for indefiniteness is not whether a claim drafter achieves perfect clarity, nor whether clearer expressions may be readily envisioned. Rather, the legal test for definiteness is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics*, 806 F.2d at 1576.

In the present case, one of ordinary skill would find claim 1 to be reasonably clear when read in light of the Specification. Claim 1 requires, among other elements, three or more microswitches and a contact surface with three or more portions. A first one of the microswitches is in direct vertical alignment with a first portion of the contact surface, a second one of the microswitches is in direct vertical alignment with a second portion of the contact surface, and a third one of the microswitches is in direct vertical alignment with a third portion of the contact surface. Each portion of the contact surface, in turn, is similarly associated with a distinct secondary input selection, in a one-to-one relationship. As these ambiguities in claim 1 do not prevent one of ordinary skill from reasonably understanding the

metes and bounds of claim protection being sought, we cannot say that the ambiguities are so significant as to render claim 1 indefinite.

The Examiner also finds claims 1-17 indefinite because claim 1 is “*broadly indefinite* enough that it could reasonably well read upon a keypad which distinguishes between primary and secondary inputs based upon [different factors].” Ans. 22, 23 (emphasis added). We understand the Examiner’s position to be that the claims are indefinite because they are unduly broad. This position is untenable though, as the law on this point is well settled: the breadth of a claim is not to be equated with indefiniteness. *See e.g., In re Miller*, 441 F.2d 689, 693 (CCPA 1971).

For the foregoing reasons, Appellants have persuaded us of error in the Examiner’s indefiniteness rejection of independent claim 1. Accordingly, we will not sustain the Examiner’s rejection of that claim or dependent claims 2-17 which stand with claim 1.

III.

We now turn to the Examiner’s rejection of claims 1-3, 5-8, and 11-20 under 35 U.S.C. § 102(b) as being anticipated by Swanson. Appellants argue claims 1-3, 5-8, and 11-20 together as a group. *See* Br. 8-10.⁵

⁵ Appellants do state that independent claim 1 recites switches in direct vertical alignment with respective portions of the contact surface, independent claim 18 recites portions of the contact surface are in direct vertical alignment with respective contacts, and independent claim 19 recites that each switch is directly vertically aligned with corresponding secondary input selections. Br. 9. However, “[a] statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim.” 37 C.F.R. § 41.37(c)(1)(vii).

Accordingly, we select independent claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants' sole argument is that Swanson does not disclose a "direct vertical alignment between the portion of the contact surface associated with a secondary input and the associated switch," as required by claim 1. Br. 9. We must therefore first determine the scope and meaning of the claim term "contact surface." *See In re Geerdes*, 491 F.2d 1260, 1262 (CCPA 1974) (noting that "[b]efore considering the rejections . . . , we must first [determine the scope of the] claims . . .").

The Specification does not label or indicate which portion of the depicted invention constitutes the claimed contact surface. The Specification does not provide any express definition for the term, "contact surface." The Specification does not indicate whether the term, "contact surface" is intended to describe (1) the upper surface of the key 102 that is contacted by a user's finger, or (2) the lower surface of the key 102 that contacts the underlying switches 122. As such, the term, "contact surface," may be interpreted broadly as reading on any surface that is capable of being contacted by either a user or by another element.

Swanson discloses a key member 10 that has a convex faceted upper surface that includes lateral faces or facets 11-14 and a top facet 15. FF 4. The key member 10 also includes a peripheral flange 17 extending transversely from the bottom side. FF 5. The key member 10 is disposed above four microswitches 21-24. FF 7. Upstanding switch actuators 30 are respectively interposed between microswitches 21-24 and corresponding portions of the peripheral flange 17 that are positioned over the microswitches 21-24. FF 6. In operation, when one of the lateral facets is

pushed normal to its face, the key member is rocked so as to actuate the microswitch that is located opposite from the lateral facet. FF 7. Restated, the act of pushing one lateral facet, which is associated with a particular secondary input selection, causes a portion of the lower surface of peripheral flange 17, which is located opposite to the pushed facet, to actuate a corresponding microswitch located directly vertically below the portion of the peripheral flange's lower surface.

The lower surface of Swanson's peripheral flange 17 may be deemed to be "a contact surface" because it possesses four portions that are in contact with other elements: the four switch actuators 30. Swanson discloses the following three elements are all associated with one particular secondary input selection: (1) a given microswitch, (2) a portion of the contact surface 17 that is directly vertically over the microswitch, and (3) a lateral facet opposite to both the microswitch and the portion of the contact surface that is directly vertically over the microswitch. *See* FF 7. As such, we find that Swanson does anticipate representative claim 1.

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner's anticipation rejection of representative claim 1. Accordingly, we will sustain the Examiner's rejection of that claim and claims 2, 3, 5-8, and 11-20 which fall with claim 1.

With respect to the remaining rejections of claims 4, 9, 10, 12-14, 21, and 22, Appellants provide no patentability arguments directed to the additional references of Kato for claims 4, 9, 10, 21, and 22; or Yu for claims 12-14. Rather, Appellants repeat the arguments directed to claims 1-3, 5-8, and 11-20 and apply them to the remaining rejections. Br. 10, 11.

Accordingly, for the reasons discussed above, we also sustain the obviousness rejections of claims 4, 9, 10, 12-14, 21, and 22.

CONCLUSION OF LAW

I. Appellants have shown the Examiner erred in finding that Appellants' originally filed disclosure lacks support for the amended claim language relating to (1) the switches being "positioned and arranged horizontally relative to one another;" and (2) the respective switches and portions of the contact surface being in "direct vertical alignment." Accordingly, Appellants have shown that the Examiner erred in rejecting claims 1-22 under 35 U.S.C. § 112, 1st paragraph.

II. Appellants have shown the Examiner erred in finding claim 1 to be so unclear that those skilled in the art would not understand what is claimed when the claim is read in light of the Specification. Accordingly, Appellants have shown that the Examiner erred in rejecting claims 1-17 under 35 U.S.C. § 112, 2nd paragraph.

III. Appellants have not shown the Examiner erred in finding that Swanson discloses that the switches and the portions of the key member's contact surface, respectively associated with the same secondary input selection, are in a direct vertical alignment. Accordingly, Appellants have not shown that the Examiner erred in rejecting claims 1-22 under 35 U.S.C. §§ 102 and 103.

DECISION

We do not sustain the Examiner's rejections under 35 U.S.C. § 112, first and second paragraphs with respect to any of the pending claims on

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appeal. We do however sustain the Examiner's rejections under 35 U.S.C. §§ 102 and 103 with respect to all pending claims on appeal. Therefore, the Examiner's rejection of claims 1-22 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

gvw

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